Mutation Research

INTERNATIONAL JOURNAL ON MUTAGENESIS,

CHROMOSOME BREAKAGE AND RELATED SUBJECTS

BOARD OF MANAGING EDITORS

F.H. Sobels, *Leiden (Chairman)*; B.W. Glickman, *Research Triangle Park, NC*;
P.C. Hanawalt, *Stanford (DNA Repair Reports)*; P.H.M. Lohman, *Rijswijk (DNA Repair Reports)*;
R.J. Preston, *Oak Ridge, TN (Mutation Research Letters)*; K. Sankaranarayanan, *Leiden*;
F.J. de Serres, *Research Triangle Park, NC*; E. Vogel, *Leiden*;
J.S. Wassom, *Oak Ridge, TN*

ASSISTANT EDITOR

M. Shelby, *Research Triangle Park, NC*

EDITORIAL BOARD

Auerbach, *Edinburgh*
Bartsch, *Lyon*
Bootsma, *Waddinxveen*
C. von Borstel, *Edmonton, Alberta*
A. Bridges, *Brighton*
V. Carrano, *Livermore, CA*
H.Y. Chu, *Ann Arbor, MI*
. Cleaver, *San Francisco, CA*
H. Ehling, *Neuherberg*
J. Evans, *Edinburgh*
M. Green, *Davis, CA*
H. Haynes, *Toronto, Ont.*
R. Hoffmann, *Worcester, MA*
Hollaender, *Washington, DC*
Kada, *Misima*
A. Kihlman, *Uppsala*
. Latt, *Boston, MA*
A. Lehmann, *Brighton*
M.F. Lyon, *Harwell*
H.V. Malling, *Research Triangle Park, NC*
G.R. Mohn, *Leiden*
E. Moustacchi, *Orsay*
A.T. Natarajan, *Leiden*
W.W. Nichols, *Camden, NJ*
R.A. Nilan, *Pullman, WA*
G. Obe, *Berlin*
F. Oesch, *Mainz*
G. Olivieri, *Rome*
R.B. Painter, *San Francisco, CA*
J.M. Parry, *Swansea*
M.C. Paterson, *Chalk River, Ont.*
L.S. Ripley, *Research Triangle Park, NC*
J.J. Roberts, *Chalfont St. Giles*
H.S. Rosenkranz, *Cleveland, OH*
L.B. Russell, *Oak Ridge, TN*
M.S. Sasaki, *Kyoto*
J.R.K. Savage, *Harwell*
D. Scott, *Manchester*
J.W.I.M. Simons, *Leiden*
A. Sivak, *Cambridge, MA*
T. Sugimura, *Tokyo*
H. Takebe, *Kyoto*
L.H. Thompson, *Livermore, CA*
D. von Wettstein, *Copenhagen*
G.C. Walker, *Cambridge, MA*
S. Wolff, *San Francisco, CA*
F.K. Zimmermann, *Darmstadt*

Vol. 111 **1983**

ELSEVIER SCIENCE PUBLISHERS B.V.
AMSTERDAM

© 1983, Elsevier Science Publishers B.V.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwi without permission in writing from the publisher.

Submission to this journal of a paper entails the author's irrevocable and exclusive authorization of publisher to collect any sums or considerations for copying or reproduction payable by third parties mentioned in article 17 paragraph 2 of the Dutch Copyright Act of 1912 and in the Royal Decree of June 1974 (S. 351) pursuant to article 16b of the Dutch Copyright Act of 1912) and/or to act in or out of Court connection therewith.

Special regulations for readers in the U.S.A. This journal has been registered with the Copyright Clearan Center, Inc. Consent is given for copying of articles for personal or internal use, or for the personal use specific clients. This consent is given on the condition that the copier pays through the Center the per-co fee stated in the code on the first page of each article for copying beyond that permitted by Sections 107 108 of the U.S. Copyright Law. The appropriate fee should be forwarded with a copy of the first page of article to the Copyright Clearance Center, Inc., 21 Congress Street, SALEM, MA 01970 (U.S.A.). If no co appears in an article, the author has not given broad consent to copy and permission to copy must obtained directly from the author. All articles published prior to 1980 may be copied for a per-copy fee U.S. $2.25, also payable through the Center. This consent does not extend to other kinds of copying, such for general distribution, resale, advertising and promotion purpose, or for creating new collective wo Special written permission must be obtained from the publisher for such copying.

Special regulations for authors. Upon acceptance of an article by the journal, the author(s) will be asked transfer copyright of the article to the publisher. This transfer will ensure the widest possible dissemination information.

Mutation Research, 111 (1983) 441–443
Elsevier

Contents

Volume 111 (1983)

Formaldehyde mutagenesis in Drosophila
Molecular analysis of ADH-negative mutants (MTR 03764)
by C. Benyajati, A.R. Place and W. Sofer (Frederick, Philadelphia and Piscataway) 1–7

The use of a cloned bacterial gene to study mutation in mammalian cells (MTR 03770)
by John Thacker, Paul G. Debenham, Albert Stretch and Michael B.T. Webb (Harwell) 9–23

Cellular glutathione content and sensitivity to alkyl-nitrosoguanidine-induced lethality and mutagenesis in *Escherichia coli* K12 (MTR 03744)
by G. Mohn, P. de Knijff and A. Baars (Leiden) 25–31

Formation of mutagen by the reaction of nitrite with several tryptophan decomposition products resulting from acid hydrolysis of protein (MTR 03747)
by Takafumi Ohta, Shizuo Suzuki and Tsutao Kurechi (Tokyo) 33–41

A rapid and simple method for the determination of base substitution and frameshift specificity of mutagens (MTR 03756)
by Yukiko Shinoura, Takesi Kato and Barry W. Glickman (Osaka and Research Triangle Park) 43–49

umuC-Mediated misrepair mutagenesis in *Escherichia coli*: extent and specificity of SOS mutagenesis (MTR 03755)
by Yukiko Shinoura, Tuneo Ise, Takesi Kato and Barry W. Glickman (Osaka and Research Triangle Park) 51–59

Mutagenic specificity and the prediction of mechanisms and bioactivation pathways of genotoxicants: the mutagenicity of 5-nitroacenaphthene as an example (MTR 03757)
by Elena C. McCoy, E. Joshua Rosenkranz, Robert Mermelstein and Herbert S. Rosenkranz (Cleveland and Webster) 61–68

Induction of 6-thioguanine-resistant mutants and single-strand scission of DNA by cadmium chloride in cultured Chinese hamster cells (MTR 03743)
by Takafumi Ochi and Motoyasu Ohsawa (Kanagawa) 69–78

Statistical methods for in vitro cell survival assays (MTR 03754)
by Robert E. Tarone, Dominic A. Scudiero and Jay H. Robbins (Bethesda and Frederick) 79–96

Announcement 97

Bacterial mutagenicity investigation of epoxides: drugs, drug metabolites, steroids and pesticides (MTR 03758)
by Hansruedi Glatt, Reinhard Jung and Franz Oesch (Mainz) 99–118

Induction of SOS functions in *Escherichia coli* by lesions resulting from incorporation of 5-bromouracil into DNA (MTR 03767)
by Irena Pietrzykowska, Małgorzata Krych and David Shugar (Warszawa) 119–133

The superiority of hamster liver microsomal fraction for activating nitrosamines to mutagens in *Salmonella typhimurium* (MTR 03773)
by William Lijinsky and A.W. Andrews (Frederick) 135–144

Effect of storage and dose on MMS-induced deletions
Complementation analysis of X-chromosomal recessive lethals in the *zeste-white* and *maroon-like* regions of *Drosophila melanogaster* (MTR 03766)
by E. Parádi, E.W. Vogel and E. Szilágyi (Budapest and Leiden) 145–159

0027-5107/83/$03.00 © 1983 Elsevier Science Publishers B.V.

Influence of various mitogens on the yield of sister-chromatid exchanges, induced by chemicals, in human lymphocytes (MTR 03759)
by Ghislain Deknudt and Om Kamra (Mol and Halifax) 161–170

DNA repair replication, DNA breaks and sister-chromatid exchange in human cells treated with adriamycin in vitro (MTR 03762)
by Bo Lambert, Margareta Sten, Stefan Söderhäll, Ulrik Ringborg and Rolf Lewensohn (Stockholm) 171–184

The suitability of the human lymphocyte micronucleus assay system for biological dosimetry (MTR 08512)
by R. Huber, S. Streng and M. Bauchinger (Neuherberg) 185–193

Statistics of the mouse bone-marrow micronucleus test: counting, distribution and evaluation of results (MTR 08509)
by J.W. Hart, and H. Engberg-Pedersen (Ballerup) 195–207

An intestinal cell-mediated chromosome aberration test for the detection of genotoxic agents (MTR 08514)
by Fred W. Whitehead, Richard H.C. San and Hans F. Stich (Vancouver) 209–217

The mutagenic potential of hyperthermia and fever in mice (MTR 03760)
by M.-T. King and D. Wild (Freiburg) 219–226

Methylation of DNA and protamine by methyl methanesulphonate in the germ cells of male mice (MTR 03761)
by Gary A. Sega and James G. Owens (Oak Ridge) 227–244

Rabbit alveolar macrophage-mediated mutagenesis of polycyclic aromatic hydrocarbons in V79 Chinese hamster cells (MTR 08511)
by Lennart Romert and Dag Jenssen (Stockholm) 245–252

Estimation of mutation rates in cultured mammalian cells (MTR 03772)
bu I-Chian Li, Jiliang Fu, Yung-Tai Hung and E.H.Y. Chu (Ann Arbor) 253–262

Photoreactivation of UV damage in *Sminthopsis crassicaudata* (MTR 03769)
by R.J. Wilkins (Dunedin and Brighton) 263–276

Frequency of sister-chromatid exchange depending on the amount of 5-bromodeoxyuridine incorporated into parental DNA (MTR 03771)
by Hitoshi Suzuki and Tosihide H. Yosida (Mishima) 277–282

Mutagenesis and anti-mutagenesis in Salmonella: influence of ethionine and caffeine on yields of mutations induced by 2-aminopurine and 9-aminoacridine (MTR 03776)
by D.G. MacPhee, B.A. Nagel and D.M. Podger (Bundoora) 283–293

The induction of forward gene mutation and gene conversion in yeasts by treatment with cyclophosphamide in vitro and in vivo (MTR 03763)
by Roberto Barale, Dario Rusciano, Giorgio Stretti, Donatella Zucconi, Michele Monaco, Pasquale Mosesso and Paola Principe (Pisa and Pomeiza) 295–312

Mutagenic relevance of rat hepatocyte nuclei in the activation and inactivation of xenobiotica
Cyclophosphamide and epichlorohydrin activity on the yeasts *S. pombe* and *S. cerevisiae* (MTR 03778)
by L. Migliore, A.M. Rossi, N. Loprieno, M. Romano and M. Salmona (Pisa and Milan) 313–323

Investigations on radiosensitive and radioresistant populations of *Drosophila melanogaster*
XVI. Adaptation to the mutagenic effects of X-rays in several experimental populations with irradiation histories (MTR 03748)
by Horst Nöthel (Berlin) 325–340

Cross-resistance studies with V79 Chinese hamster cells adapted to the mutagenic or clastogenic effect of *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine (MTR 03777)
by B. Kaina (Gatersleben) 341–352

Mutations resistant to bromodeoxyuridine in mouse lymphoma cells selected by repeated exposure to EMS
Characteristics of phenotypic instability and reversion to HAT resistance by 5-azacytidine (MTR 03765)
by Nori Nakamura and Shigefumi Okada (Tokyo) 353–364

A modified agar assay for the quantitation of mutation at the hypoxanthine guanine phosphoribosyl transferase gene locus in Chinese hamster ovary cells (MTR 03774)
by A.P. Li and R.W. Shimizu (Albuquerque) 365–370

A comparison of the agar cloning and microtitration techniques for assaying cell survival and mutation frequency in L5178Y mouse lymphoma cells (MTR 03775)
by J. Cole, C.F. Arlett, M.H.L. Green, J. Lowe and W. Muriel (Brighton) 371–386

Toxicity and mutagenicity of X-rays and [^{125}I]dUrd or [^{3}H]TdR incorporated in the DNA of human lymphoblast cells (MTR 03779)
by Howard L. Liber, Peter K. LeMotte and John B. Little (Boston and Cambridge, MA) 387–404

Cytotoxicity of monofunctional alkylating agents
Methyl methanesulfonate and methyl-*N'*-nitro-*N*-nitrosoguanidine have different mechanisms of toxicity for 10T1/2 cells (MTR 03781)
by Gary J. Smith and Joe W. Grisham (Chapel Hill) 405–417

Activation of polycyclic hydrocarbons in Reuber H4-II-E hepatoma cells
An in vitro system for the induction of SCEs (MTR 03787)
by R.G. Dean, G. Bynum, D. Jacobson-Kram and E. Hadley (Baltimore, Albuquerque, Washington and Bethesda) 419–427

High-density lipoproteins decrease both binding of a polynuclear aromatic hydrocarbon carcinogen to DNA and carcinogen-initiated cell transformation (MTR 03768)
by David L. Busbee and William F. Benedict (Denton, College Station and Los Angeles) 429–439

Contents, Vol. 111 (1983) 441–443

Publisher's Note 444

Mutation Research, 111 (1983) 444
Elsevier

Publisher's Note

From Volume 125 (1984), *Mutation Research* will change to a double column format. The trimmed size of the journal will, at the same time be enlarged to 192 mm by 262 mm from the present 165 mm by 240 mm.

The new format allows greater flexibility in the placement of tables and figures and we would like contributors to note that they should prepare suitably their figures for *either* one column width (76 mm) *or* the entire page width (160 mm). The maximum height is 206 mm.

The Publisher will continue to determine the degree of any reduction or enlargement required and, in general, line drawings will be reduced to one column width if possible. Authors may, however, specifically request a larger reproduction. Particular requests should be typed on the relevant figure legend page. Micrographs will usually not be reduced unless the reduction involved is small or the height of the figure necessitates reduction.

0027-5107/83/$03.00 © 1983 Elsevier Science Publishers B.V.

IMPORTANT NOTICE

The cumulative author index and the cumulative subject index covering all volumes which have appeared in 1983 (volumes 107–124 incl.) will be sent in February 1984 free of charge to all *full* subscribers.

0027-5107/83/$03.00 © 1983 Elsevier Science Publishers B.V.